

AMENDMENTS TO THE SPECIFICATION

Please amend the specification by insertion of new paragraphs or substitution of the amended paragraphs presented below for the corresponding paragraphs currently present in the application.

1. Below the Title and above the section heading "FIELD OF THE INVENTION", please insert the following heading and paragraph:

--CROSS REFERENCE TO RELATED APPLICATION

This application is a continuation of Application Serial No. 09/924,404, filed on August, 7, 2001, which is a divisional of Application Serial No. 09/353,245, filed July 14, 1999 and issued as United States Patent No. 6,299,743 on October 9, 2001.--

2. Please substitute the paragraph spanning page 6, lines 9-36 with the following paragraph:

--The generation of nitrogen using the methods of the present invention may be particularly useful in electrochemically driven fluid dispersers. For example, Figure 1 illustrates a dispenser for a fluid 10. The disperser has a body 12 and an outlet nozzle 14. There is a piston 16 and a bellows 18 to force the fluid 10 from the nozzle 14. The necessary force is generated by an electrolytic gas generator 20 having an external circuit that includes a resistor 22, battery 26 and a switch 24. Figures 4A and AB illustrate alternative embodiments of electrochemical cells according to various aspects of the invention. Such cells may be made of a sandwich construction comprising an anode 36, such as a gelled anode, in a conductive cup 38, such as a brass cup, having a contact 40 to enable wiring [t] to an external circuit. An electrolyte 42 is contained in a thin-walled tube 44. A permeable cathode, such as a screen 46 backed by a graphite felt 48 and a brass disk current collector 50 may be used, with a contact 52 to enable wiring to the external circuit. The cell may be contained in a polypropylene cylinder 54. A spring washer 56 on cup may be retained by a lip 60 on cylinder 54. Figure 5 shows the configuration of a bipolar cell, in which cells such as those illustrated in Figures 4A and 4B are compressed in series with electronic contact between adjacent anodes and cathodes, for example by spring loading of washer 56. Brass plate current collectors 50 and contacts 52 are omitted from all cathodes except the end cathode.--

3. Please substitute the paragraph under the subtitle "EXAMPLE 2", bridging page 10, line 22 through page 11, line 7 with the following paragraph:

--In another embodiment, a nitrogen generator was assembled according to Figure 2 and consisted of:

- (a) an external electronic circuit comprising switch 24 with a resistor 22, which may be a variable resistor;
- (b) an electrochemical cell [[29]] 23 divided by a cation membrane 29 (such as the sulfonated perfluoroethylene polymer sold under the trademark NAFION 324 by E.I. DuPont & DeNemours Co., Wilmington, Delaware, U.S.A., or equivalents thereof) with:
 - i) a catholyte 27 of a solution of sodium bromate in aqueous sulphuric acid;
 - ii) an anolyte mixture of sodium azide (about 0.1 to 4M), sodium bicarbonate (about 0.1 to 1M), sodium iodide (about 0.1 to 1M) and sodium thiocyanate (about 0.1 to 1M) in water;
 - iii) electrodes of NylonTM impregnated graphite fibre and GRAFOIL (such as the product sold under the trade-mark GRAFOILTM GTB by Union Carbide Corp.).--

4. Please substitute the paragraph under the subtitle "EXAMPLE 4", spanning page 12, lines 12-29 with the following paragraph:

--In an alternative embodiment, a nitrogen generator was assembled according to Figure 3 and consisted of:

- (a) an external electronic circuit comprising switch with variable resistance, as in Examples 2 and 3;
- (b) a bipolar electrochemical unit with 2 cells:
 - i) a first cathode 25 of NylonTM impregnated graphite fibre with an oxidant 33 paste of manganese dioxide plus carbon powder;

- ii) a catholyte 27 of sulphuric acid (about 1 to 4M) in water absorbed in cellulose felt;
- iii) a **bipole bipolar** electrode 29 of copper sheet;
- iv) an anolyte 31 mixture of:
 - cupric sulfate (about 0.1 to 1M);
 - sulphuric acid (about 0.1 to 1M);
 - methyl hydrazine-carboxylate (about 0.1 to 2M);
 - water;
- v) an anode 21 of graphite.--

5. Please substitute the paragraph under the subtitle "EXAMPLE 5", bridging page 13, line 25 through page 14, line 12 with the following paragraph:

--In a further alternative embodiment, a nitrogen generator was assembled according to Figure 4 and consisted of:

- (a) an external electronic circuit with variable resistance, as in [[e]]Examples 2 through 4;
- (b) a **bipole bipolar** electrochemical unit with 2 cells:
 - i) a first cathode 21 of "Grafoil" graphite sheet;
 - ii) a first electrolyte 31 consisting of a gelled mixture of:
 - methyl hydrazine carboxylate (about 0.1 to 4M);
 - cupric sulfate (about 0.1 to 1M);
 - acetic acid (about 0.1 to 1M);

- water;
- iii) a bipole bipolar conductor 29 of Grafoil sheet;
- iv) a second anode 37 of gelled zinc particles in a brass cup 41;
- v) a second electrolyte 27 of gel (such as 30% by weight CARBOPOL gelling agent, potassium hydroxide solution (plus additives));
- vi) an oxidant 39 such as a paste of manganese dioxide with carbon powder (in about 30% by weight KOH) [[;]]--